2020

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INSECTA MUNDI A Journal of World Insect Systematics

0752

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Date of issue: February 28, 2020

CENTER FOR SYSTEMATIC ENTOMOLOGY, INC., Gainesville, FL

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Insecta Mundi 0752: 1–4
ZooBank Registered: urn:lsid:zoobank.org:pub:DFFA138D-C0C3-4B4F-B7B0-DC36B0B46BB4

Published in 2020 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
http://centerforsystematicentomology.org/

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Layout Editor for this article: Robert G. Forsyth

INSECTA MUNDI 0752: 1–4 2020

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Abstract. A new species of *Uvarus* Guignot, 1939 (Coleoptera: Dytiscidae: Hydroporinae: Bidessini), is described from Florida, USA. It is most similar to *U. suburbanus* (Fall), but differs in the shape of the much stouter and broader median lobe of the male genitalia.

Key words. Diving beetle, taxonomy.

Introduction

The Bidessini are a large tribe of very small beetles (most are <4 mm in length) in the subfamily Hydroporinae of the diving beetle family Dytiscidae. Forty-seven genera of bidessines are currently known worldwide, with more expected to be described; the tribe represents the largest group within the family, containing about 16% of currently recognized dytiscid species (Miller and Bergsten 2016).

The bidessine genus *Uvarus* Guignot, 1939, contains nine described species in North America north of Mexico (Larson et al. 2000); the genus has 65 species world-wide (Miller and Bergsten 2016). The genus requires worldwide revision, as it may be polyphyletic (Biström 1988).

Larson et al. (2000) reviewed the genus for North America and proposed two groups: the *lacustris* group, consisting of four species, and the granarius group, with five species. They also discussed some of the problems with the taxonomy of the genus, including the status of the type-species, *U. lacustris* (Say); the type of the species is lost. Epler (2010) treated the species known from Florida and included one undescribed species, *Uvarus* sp. 1.; this new species is described below.

Materials and Methods

Most of the material was collected by consulting firm personnel during sampling events for biomonitoring programs in Florida. The letters/numbers displayed in brackets following the locality data are station identifiers.

All specimens, except one fluid-preserved male with genitalia dissected, were point-mounted; genitalia were dissected from the males and placed in a drop of glue on the point adjacent to the specimen or in a micro-vial attached to the pin. Measurements, drawings and habitus photos were made using a Leica Wild MZ8 stereomicroscope; a Leica DMLC compound microscope was used to produce the genitalia drawings. Drawings done on paper were inked and then scanned; figures were cleaned up using Affinity Photo.

Abbreviations used: FSCA – Florida State Collection of Arthropods, Gainesville, FL, USA; JHE – JH Epler collection, Crawfordville, FL, USA.

Results

Uvarus sinofelihelianthus Epler, new species

Uvarus sp. 1 Epler 2010: 5.116, 5.119 (in key; distribution)

Diagnosis. This species is most similar to *U. suburbanus* (Fall) as redescribed by Larson et al. (2000). Both taxa lack a subhumeral lateral carina but *U. sinofelihelianthus* differs in the shape of the much stouter and broader median lobe of the male genitalia.

Description. ($n = 5$ ♂♂, 1♀). Total length 1.72–1.80 mm; width 0.92–0.98 mm; length/width 1.84–1.88; head width 0.52–0.58 mm; interocular distance 0.28–0.30 mm; pronotum length 0.28–0.30 mm, width 0.78–0.80 mm; pronotal plica length 0.12–0.16 mm; elytron length 1.18–1.24 mm; elytron plica length 0.12–0.22 mm.

Head reddish-brown above, yellow to reddish-brown posterior of eyes; yellow ventrally. Palpi yellow with apical infuscation; antennae yellow to pale brownish-yellow. Pronotum dorsally yellow with medial darker area along posterior margin, ventrally yellow. Elytron dark reddish-brown with slightly paler maculation in subhumeral area and subapically, yellow along lateral humeral area (Fig. 2) or dark yellow-brown with weak stripe, and punctures darkened (Fig. 3). Venter pale reddish-brown, epipleuron mostly yellowish, darker posteriorly; abdominal sternites reddish-brown. Fore and middle legs yellow/pale brown; hind legs light reddish-brown, tarsi paler.

Body elongate-oval, widest at about basal 1/3 of elytra (Fig. 1). Head microreticulate, with sparse fine punctures anterior to an imaginary line drawn through the posterior margin of the eyes, head behind this line smooth, shining. Clypeus convex, with a pair of shallow, semi-triangular frontal impressions that give suggestion of a low medial ridge and small rounded lip along anterior margin. Pronotum shining, non-reticulate, with sparse small punctures and narrow lateral bead; with basal plicae that extend slightly more than half length of pronotum at same level, apically turning mediad. Elytron shining, with moderate punctation, slightly denser towards apex; each puncture bearing a seta that is subequal in length to distance between punctures; with basal plica that is longer or subequal to pronotal plica; elytron lateral margin posterior to humeral area smoothly rounded, without carina or ridge. Epipleuron shining, mostly impunctate, with < 10 minute punctures mostly near ventrolateral margin. Metasternum, metacoxae and abdominal sternites with very fine, sparse punctures bearing very thin setae subequal to or slightly longer than space between punctures; metasternum with shallow impression at base of anteromedial process (Fig. 9).

Male genitalia with lateral lobes two-segmented (Fig. 5); median lobe stout, with broad convex apex (Fig. 6, 7).

Type material. HOLOTYPE (deposited in FSCA), ♂, USA: FLORIDA: Union Co., New River near Lake Butler at State Road 100, 29°59′53″N, 82°16′27″W [NEW 009], 5-v-2003, leg. Bob Giambrone. PARATYPES (4♂♂, 1♀): FLORIDA: Alachua Co., Santa Fe River at Worthington Springs, 29°55′18″N, 82°25′34″W [SFR 030], 4-iii-1996, leg. Bob Giambrone, 1 ♀ (FSCA); Columbia Co., Santa Fe River at O'Leno State Park, 29°54′51″N, 82°34′48″W [SFR 040], 12-iv-2016, leg. Efrain Tavarez, 1 ♂ (FSCA); Hardee Co., Peace River at Heard Bridge Road, north of Wauchula, 27.57631, −81.80447 [PRMP-10], 10-v-2019, leg. Sheri A. Huelster, Stephanie Healey, 1 ♂ (JHE); Manatee Co., Myakka R at Wauchula bridge, 12-x-1983, leg. R.P. Rutter, 1 ♂ (JHE); Union Co., New River near Lake Butler at State Road 100, 29°59′53″N, 82°16′27″W [NEW 009], 1-viii-2002, leg. Bob Giambrone, 1 ♂ (JHE).

Etymology. From *sino* – relating to China; *felis* – cat; *helianthus* – sunflower. Named for China Cat Sunflower, a musical composition by Robert Hunter and Jerry Garcia.

Comments. To date the species is known only from Florida, but its occurrence in the New and Santa Fe Rivers in the Suwannee River Basin of northern Florida indicates it might be found elsewhere on the southeastern Coastal Plain; other specimens were collected further south, in the Myakka and Peace River drainages. All specimens were collected from the margins of small rivers by dipnet.

Elytral plica length was longer than pronotal plica length in three males, and equal in two males and the single female. The faint maculation of the elytra varies from a weakly banded pattern (Fig. 2) to a single faint stripe (Fig. 3); both "variants" exhibit a similar weak longitudinal stripe. This maculation is apparent only when the elytron is lifted up or removed.

Epler (2010) reviewed the species of *Uvarus* known from Florida; he provided keys for southeastern species and habitus photographs of all Florida species and an additional species that may occur in Florida, *U. suburbanus* (Fall). One unknown species was keyed as "*Uvarus* sp. 1", here described as *U. sinofelihelianthus*. In Larson et al. (2000) it will key to *U. suburbanus* (Fall), a species they (ibid.: 133) redescribed from "type specimens from Staten Island, New York, Talbot Co., Maryland ... and specimens from Louisiana".

Epler (2010) examined a series of *U. suburbanus* in the FSCA determined by F.N. Young and considered that a specimen from College Park, Maryland, fit the species as redescribed by Larson et al. (2000). Figures of this specimen and its genitalia are included here (Fig. 4, 8).

The two species are similar in appearance, both lacking the weak to well developed subhumeral lateral carina found in other members of the granarius group. They are best separated by the stouter median lobe of the male genitalia in *U. sinofelihelianthus* (Fig. 6–7). In general form, *U. sinofelihelianthus* is slightly slimmer and elytral punctation appears to be slightly denser than that of *U. suburbanus*, but more material of both taxa needs to be examined.

Acknowledgments

Many thanks to Laura Line (Water and Air Research, Inc., Gainesville, FL), Sheri Huelster (Cardno, Riverview, FL), and Marc Minno (Suwannee River Water Management District, Live Oak, FL) for providing some collection data, and to Olof Biström (Helsinki, Finland) for providing valuable literature. Bob Rutter (retired biologist for the Florida Department of Environmental Protection, Punta Gorda, FL) once again provided important material. I am very grateful for the reviews of the original manuscript by Olof Biström and Dave Larson; their comments and suggestions improved the paper.

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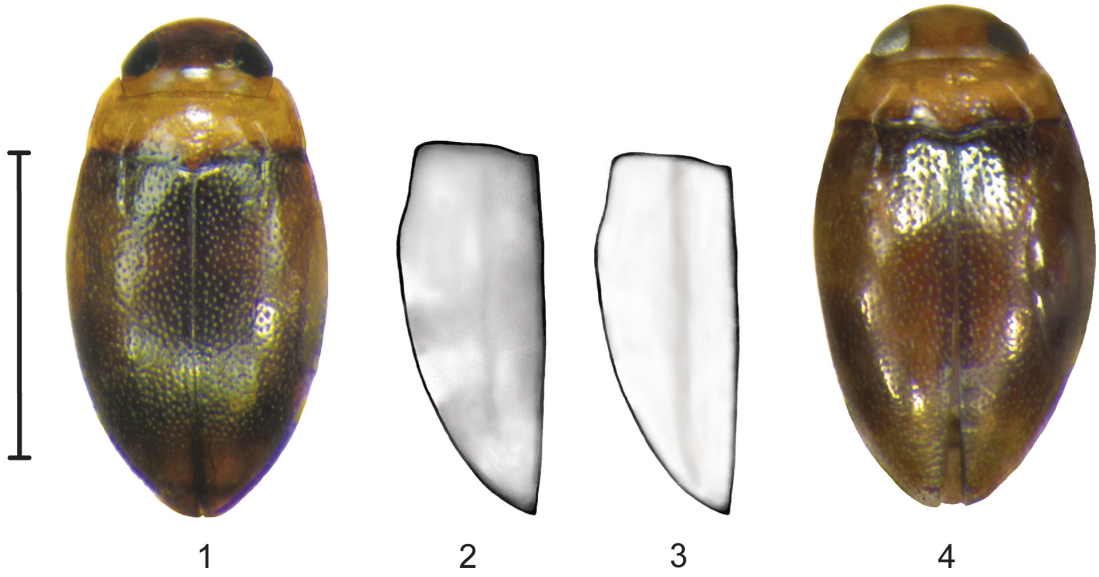
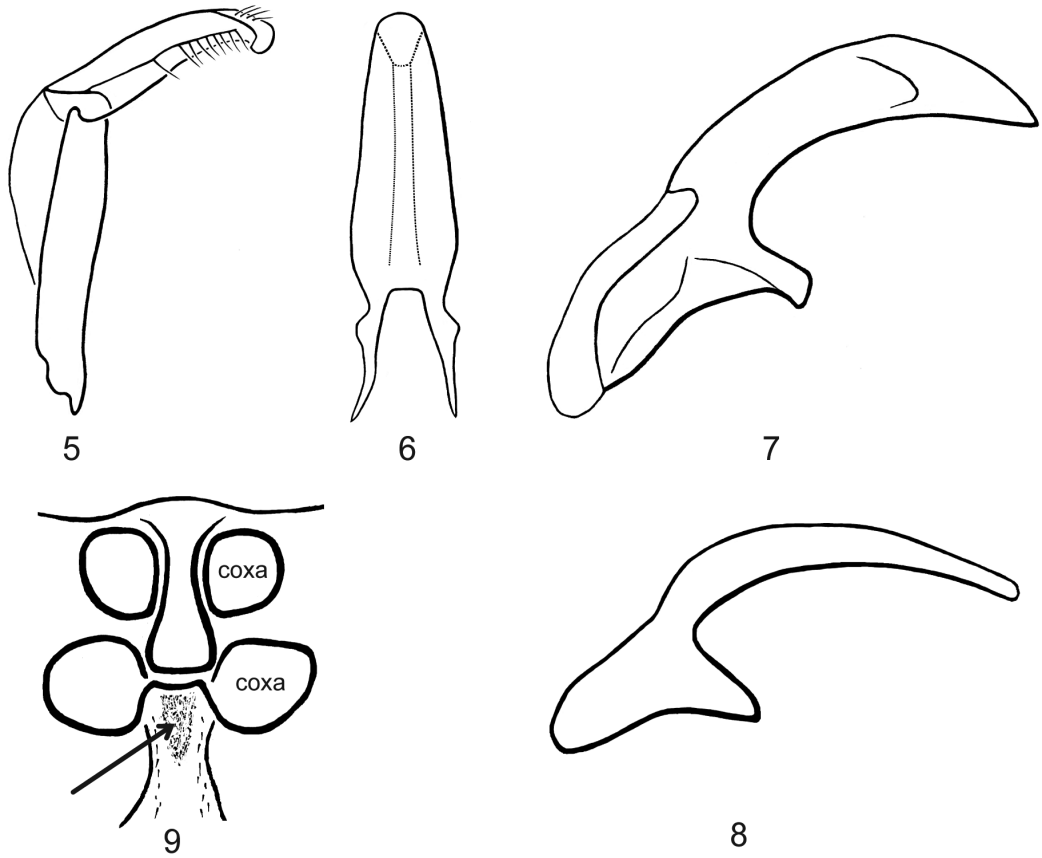
Received December 16, 2019; accepted January 27, 2020.
Review editor Gareth S. Powell.



Figures 1–4. Adult habitus and elytra, *Uvarus* sp. **1)** *Uvarus sinofelihelianthus*, habitus, male holotype. **2)** *U. sinofelihelianthus*, elytron with weak maculation. **3)** *U. sinofelihelianthus*, elytron with weak stripe. **4)** *U. suburbanus* (Fall), habitus, Maryland specimen. (scale line = 1 mm)



Figures 5–9. Male genitalia and ventral structures, *Uvarus* sp. **5)** *U. sinofelihelianthus*, lateral lobe. **6)** *U. sinofelihelianthus*, median lobe, dorsal aspect. **7)** *U. sinofelihelianthus*, median lobe, lateral aspect. **8)** *U. suburbanus*, median lobe, lateral aspect. **9)** *U. sinofelihelianthus*, anteromedian extension of metasternum, arrow indicating weak depression.